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# A Pre and Post Survey to Evaluate Patient Perception of Group Diabetes Self-Management Education in Rural Health Clinics

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## ABSTRACT

Diabetes is a significant clinical issue in the primary care setting. Providers struggle to overcome barriers to facilitate therapeutic interventions for populations served. The specific aim of this study is to assess group diabetes self-management education from a patient perspective. Evaluation of diabetes knowledge and self-efficacy confidence was conducted in rural primary care clinics using pre and post surveys. This study utilized a one-group pretest-posttest design to patients receiving group diabetes self-management education in Southeast Kansas rural primary care clinics. The surveyed population included individual's ages 18-65 with prediabetes, type I, or type II diabetes who received education led by a certified diabetic educator between December 1, 2018, and February 28, 2019, at five rural primary care clinics in Southeast Kansas.

## INTRODUCTION

Diabetes remains the seventh leading cause of death in the United States with over 30 million Americans diagnosed (CDC, 2017). The Centers for Disease Control reports 8.9% of adults living in Kansas in 2015 as having a diagnosis of diabetes. This is a significant increase from 1995 where the CDC reported 4.7% of Kansas adults having diabetes. From 1995 to 2015 the number of individuals diagnosed has almost doubled. Diabetes is a chronic health condition that causes blood sugar to be higher than normal. Too much sugar can negatively impact several body systems, the most common being the eyes, kidneys, skin, heart, blood vessels, and nerves. The American Diabetes Association (2017) estimated diagnosed diabetes costs $327 billion per year and found that individuals with diabetes incurred healthcare cost 2.3 times higher than individuals without diabetes. Early intervention programs and self-management of individuals diagnosed with diabetes is an essential component of improving health outcomes, patient satisfaction, and efficacy of diabetes education.

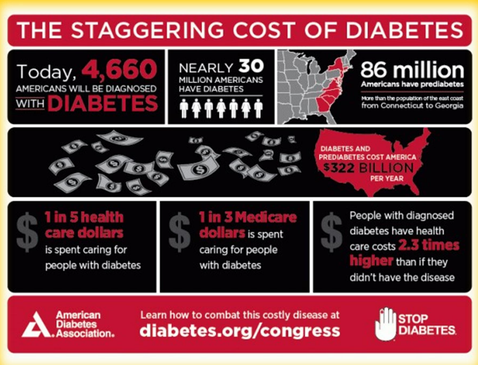


*Figure 1.* American Diabetes Association

## PURPOSE

Diabetes self-management education and support has been shown to be effective in reducing healthcare cost and improving patient outcomes (American Diabetes Association, 2017). Evaluation of a multicomponent group diabetes self-management education program among adults in the Southeast Kansas area is essential to establish baseline health beliefs and knowledge. Establishing baseline beliefs and knowledge will allow the certified diabetic education to determine what components of self-management education individuals perceive as the most challenging. The study assessed and evaluated areas of improvement for future program designs in rural communities over patient perception of diabetes knowledge and ability to confidently manage appropriate lifestyle choices necessary both pre and post attendance of group self-management education.

## RESEARCH QUESTIONS

1. Does the administration of group diabetes self-management education influence patient knowledge of diabetes management?
2. Does the administration of group diabetes self-management education influence patient confidence to self-manage lifestyle choices?
3. What are the participant's demographics regarding, age, gender, race, education, and employment?

## METHODS

- Participants ages 18-65 years with a diagnosis of prediabetes, type 1 diabetes or type 2 diabetes were recruited from Community Health Centers of Southeast Kansas (CHCSEK) diabetes self-management education classes (DSME).
- Participants who were non-English speaking, pregnant, mentally disabled, or unable to independently manage their disease were excluded from the study. Participation was voluntary.
- The DSME courses are delivered at 3.5-hour sessions once per month at each location by a certified diabetic educator.
- Surveys were adapted from the Robert Woods Johnson Foundation (RWJF) Diabetes Initiative Program and were administered at five different Community Health center locations.
- Prior to the DSME session, participants completed a pre-test survey evaluating demographics, knowledge of diabetes, and perceived confidence of disease management.
- Immediately following the DSME session, participants completed a posttest evaluating the same measures of knowledge and confidence.
- Data was analyzed using descriptive statistics, recorded, and disseminated.

## RESULTS

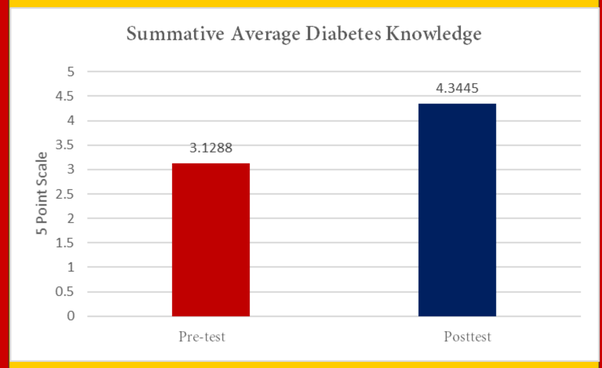


*Figure 2.* Comparison of Diabetes knowledge pre-test and posttest.

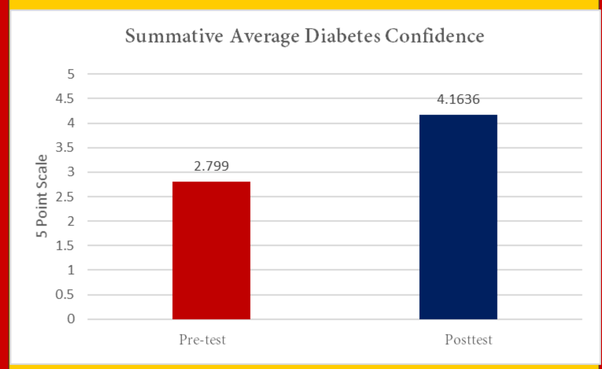


*Figure 3.* Comparison of Diabetes confidence pre-test and posttest.

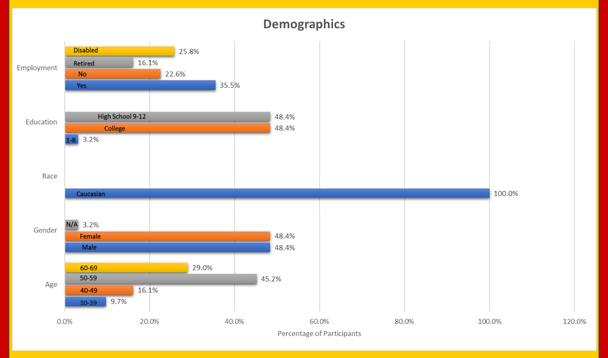


*Figure 5.* Demographics of Participants

## RESULTS

Analysis of the data indicated:

- Participants gained 1.21 points on perceived knowledge level on their posttest measurement as compared to their pre-test.
- Participants gained 1.36 points on perceived confidence level on their posttest measurement as compared to their pre-test.
- 45.2% of the participants were between the ages 50-59 years.
- 48.4% of the participants were male, and 48.4% were female.
- 100% of the participants were Caucasian
- 3.2% of the participants has a grade school 1-8 level education, 48.4% has a high school 9-12, and 48.4% has college level education.
- 35.5% of the participants were employed, 22.6% were not employed, 16.1% were retired, and 25.8% were disabled.

One barrier in the study included poor attendance rates of participants resulting in a small sample size of 31 participants. Another barrier is the potential for participant response bias- the tendency to consistently given the same answer to almost all the items on a survey.

## CONCLUSIONS

The study indicates there was a statistically significant difference between the pre-test and posttest on participant perceived knowledge level and confidence level. Surveys as evaluation tools may increase provider awareness of educational deficits regarding patient knowledge of diabetes and appropriate intervention measures necessary for disease management. It is imperative that the healthcare community increase efforts to address barriers and explore resources for DSME programs to meet the needs of individuals living with prediabetes, type1 or type 2 diabetes.

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